

**PAT-NO:** JP401301291A  
**DOCUMENT-IDENTIFIER:** JP 01301291 A  
**TITLE:** METHOD FOR BINDING BOOK WITH EDGE-FOLDED COVER

**PUBN-DATE:** December 5, 1989

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**APPL-NO:** JP63131932  
**APPL-DATE:** May 30, 1988

**INT-CL (IPC):** B42C019/00 , B42C009/00 , B42C011/00

**US-CL-CURRENT:** 412/8

**ABSTRACT:**

**PURPOSE:** To enable a bookbinding with high efficiency to contrive a lower cost, by a method wherein a body is wrapped by an edge-folded cover coated with a quick-drying adhesive melting by heat.

**CONSTITUTION:** A set of section 1 is fed to a binder with a back 1A disposed downward. In the binder, an adhesive 5 is applied to the back 1A by a roller 3, and the reverse side of a back of end paper 7 is bonded thereto to obtain a body 8. Thereafter, a fore edge 9, a top edge 11, and a tail edge 13 of the body 8 are cut by cutters 15, 16, 17 using a three-side trimmer. The body 8 is fed to an automatic covering machine, and therein a back 8A of the body 8 is made coincident with a reverse 21B of a back of an edge-folded cover 21. In this case, a quick **-drying adhesive 25 melted** by heat is previously applied to the reverse back 21B. In the automatic covering machine, the ends of the back 21A of the edge-folded cover 21 are folded and, thereafter, sleeves 27 are folded. Next, the bodies 8 wrapped by the edge-folded covers 21 are bundled, the backs 21A of the edge-folded covers 21 are bonded by the heat of a heater 31, and a bookbinding process is completed.

## ⑫ 公開特許公報(A)

平1-301291

⑬ Int. Cl. 4

識別記号

庁内整理番号

⑭ 公開 平成1年(1989)12月5日

B 42 C 19/00  
9/00  
11/00

6763-2C

6763-2C

6763-2C 審査請求 未請求 請求項の数 1 (全3頁)

⑮ 発明の名称 小口折り表紙付き本の製本方法

⑯ 特 願 昭63-131932

⑰ 出 願 昭63(1988)5月30日

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## 明 細 書

## 1. 発明の名称

小口折り表紙付き本の製本方法

## 2. 特許請求の範囲

丁合された複数の折り丁の背に糊を塗布し見返しと共に接着して本文を得る工程と、

このようにして得られた本文を三方断ちする工程と、

展開された小口折り表紙の背裏に速乾性を有し、且つ、加熱することで溶解する接着剤を塗布する工程と、

接着剤が塗布された小口折り表紙の背裏と本文の背を合せつつ小口折り表紙でくるむと共に小口折り表紙の両袖を機械折りする工程と、

小口折り表紙の背を加熱してその背裏を本文の背に接着する工程と、

からなる小口折り表紙付き本の製本方法。

## 3. 発明の詳細な説明

(産業上の利用分野)

本発明は小口折り表紙付き本の製本方法に関

し、更に詳細には、簡易に製本できコストダウンを図れる小口折り表紙付き本の製本方法に関する。

(従来技術)

表紙の両袖を内側に折り付ける小口折り表紙付き本の製本は、従来、次のようになされている。

まず、丁合された複数の折り丁の背に糊を塗布し、そこに見返しの背裏を貼着して本文を作る。

次いで、本文の小口を断裁する。

次いで、本文の背に糊を塗布して該背に展開された小口折り表紙の背裏を貼着する。

次いで、小口折り表紙の背を本文の背の角に沿って折り付ける。

次いで、小口折り表紙の袖を手作業で折り付ける。

次いで、天と地を断裁し、これにより小口折り表紙付き本が完成される。

(発明が解決しようとする課題)

即ち、従来の製本方法では、小口折り表紙を本文の背に糊付けし、本文に糊付けされた小口折り

表紙の袖を手作業で折り付けているが、本文に糊付けされた後に小口折り表紙の天地方向のずれを修正することは困難であり、そのため、まず、小口折り表紙を糊付けする前に本文の小口のみを裁断機で裁断し、小口折り表紙を本文に糊付けした後、再び裁断機を用いてその天と地を裁断している。

従って、斯かる従来の製本方法では、小口折り表紙の袖の折り付けを機械化できず、製本作業の効率が悪くコストダウンを図れない不具合があった。

本発明は前記事情に鑑み案出されたものであって、本発明の目的は、効率良く製本でき、コストダウンを図ることができる小口折り表紙付き本の製本方法を提供することにある。

(課題を解決するための手段)

前記目的を達成するため本発明の構成は、

丁合された複数の折り丁1の背に糊5を塗布し見返し7と共に接着して本文8を得る工程と、

このようにして得られた本文8を三方断ちする

工程と、

展開された小口折り表紙21の背裏21Bに速乾性を有し、且つ、加熱することで溶解する接着剤25を塗布する工程と、

接着剤25が塗布された小口折り表紙21の背裏21Bと本文8の背8Aを合せつつ小口折り表紙21でくるむと共に小口折り表紙21の両袖27を機械折りする工程と、

小口折り表紙21の背21Aを加熱してその背裏21Bを本文8の背8Aに接着する工程と、

からなることを特徴とする。

(作用)

速乾性を有し、且つ、加熱することで溶解する接着剤25を塗布した小口折り表紙21で本文8をくるむため、小口折り表紙21と本文8とを精度良く合せることができ、小口折り表紙21の袖27の折り付けを含む全ての製本工程を機械作業により行え、また、断裁作業も一回で足りるなど、小口折り表紙付き本33を効率良く製本でき、コストダウンを図ることができる。

合せる。

小口折り表紙21は、展開された状態で本文8の搬送ラインと直交する方向から供給する。

この場合、小口折り表紙21の背裏21Bには第9図に斜線で示すように、速乾性を有し、且つ加熱することで溶解する接着剤25を予め塗布しておく。

自動カバー掛け機では次に、第6図に示すように、小口折り表紙21の背21Aの角部の折り付けを行い、続いて、第7図に示すように、小口折り表紙21の袖27の折り付けを行う。これら折り付けは搬送ラインに設けた不図示の折り付けガイドにより行う。

次に、第8図に示すように、小口折り表紙21でくるまれた本文8を束ねる。そして、このようにして束ねられた小口折り表紙21の背21Aを加熱機のヒータ31で加熱し、予め塗布された接着剤25で本文8の背8Aと小口折り表紙21の背裏21Bを接着し、小口折り表紙付き本33の製本工程を終了する。

(実施例)

以下、本発明の好適一実施例を添付図面に従って説明する。

第1図乃至第8図は小口折り表紙付き本の製本工程の説明図である。

第1図は丁合機により丁合された複数の折り丁1a、1b、1c・・・の集合体1を示し、まずこの折り丁集合体1を、その背1Aを下向きにして搬送手段によりバインダー機に搬送する。

バインダー機では、第2図に示すように、折り丁集合体1の背1Aにローラ3により糊5を塗布すると共に、第3図で示すように、そこに見返し7の背裏を貼着して本文8を得る。

次に、第4図に示すように、このようにして得た本文8を搬送手段により三方断裁機に搬送し、本文8の小口9、天11、地13とをカッター15、16、17により断裁する。

次に、第5図に示すように、搬送手段により自動カバー掛け機に搬送し、この三方断ちされた本文8の背8Aを小口折り表紙21の背裏21Bに

従って、本実施例によれば、速乾性を有し、且つ、加熱することで溶解する接着剤25を予め塗布した小口折り表紙21で本文8をくるむようにしたので、自動カバー掛け機を用いて小口折り表紙21の袖27の折り付けを含む全ての製本工程を機械作業により行うことができる。

また、自動カバー掛け機を用いたことにより、小口折り表紙21と本文8とを精度良く合わせる事が可能となり、小口折り表紙21で本文8をくるむ前に小口9、天11、地13の三方全てを一度に断裁できる。

従って、小口折り表紙付き本33を効率良く製本でき、コストダウンを図ることができる。

(発明の効果)

以上の説明で明らかなように、本発明によれば、効率良く製本でき、コストダウンを図ることができる小口折り表紙付き本の製本方法を得ることができる。

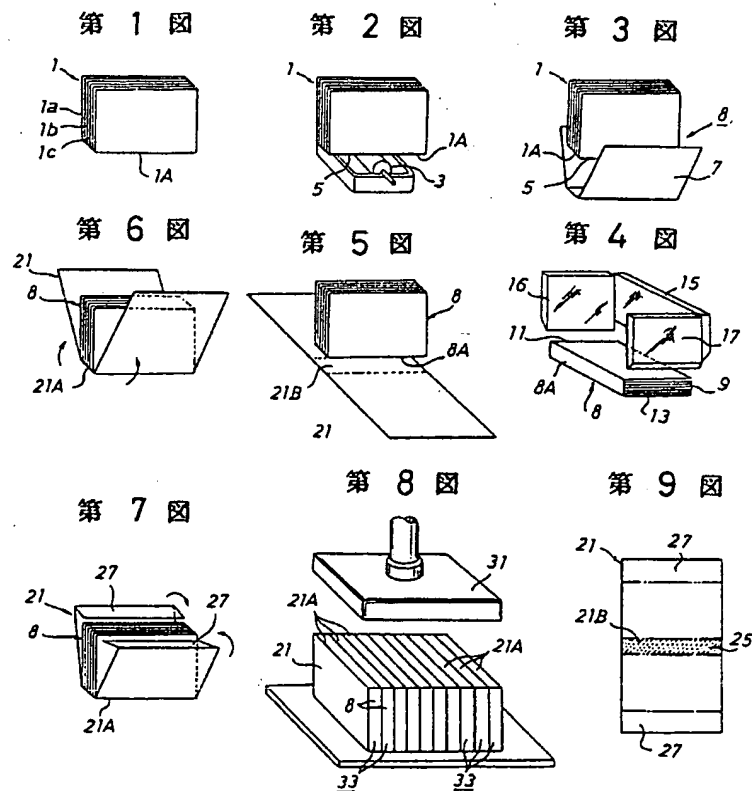
#### 4. 図面の簡単な説明

第1図乃至第8図は小口折り表紙付き本の製本

工程の説明図、第9図は小口折り表紙の展開図である。

尚図中、1は折り丁集合体、7は見返し、8は本文、8Aは本文の背、21は小口折り表紙、21Bは小口折り表紙の背裏、25は接着剤である。

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PTO 07-3245

CC=JP DATE=19891205 KIND=A  
PN=01301291

METHOD FOR BINDING BOOK WITH EDGE-FOLDED COVER  
[Koguchiori shoshitsuki hon no seihon hoho]

Kazuo Hayashi

UNITED STATES PATENT AND TRADEMARK OFFICE  
Washington, D.C. March 2007

Translated by: FLS, Inc.

|                              |        |   |
|------------------------------|--------|---|
| PUBLICATION COUNTRY          | (19):  | JP  |
| DOCUMENT KIND                | (12):  | A   |
|                              | (13):  | PUBLISHED UNEXAMINED PATENT APPLICATION (Kokai)   |
| PUBLICATION DATE             | (43):  | 19891205 [WITHOUT GRANT]                          |
| PUBLICATION DATE             | (45):  | 19891205 [WITH GRANT]                             |
| APPLICATION NUMBER           | (21):  | 63-131932   |
| APPLICATION DATE             | (22):  | 19880530  |
| PRIORITY DATE                | (32):  |   |
| ADDITION TO                  | (61):  |   |
| INTERNATIONAL CLASSIFICATION | (51):  | B42C 19/00, 8/00, 11/00                           |
| DOMESTIC CLASSIFICATION      | (52):  |   |
| PRIORITY COUNTRY             | (33):  |   |
| PRIORITY NUMBER              | (31):  |   |
| PRIORITY DATE                | (32):  |   |
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| TITLE                        | (54):  | METHOD FOR BINDING BOOK WITH<br>EDGE-FOLDED COVER |
| FOREIGN TITLE                | [54A]: | Koguchiori shoshitsuki hon no<br>seihon hoho      |

## 1. Name of this Invention

Method for Binding Book with Edge-folded Cover

## 2. Claim(s)

[Claim 1] Method for binding book with edge-folded cover, comprising (1) a process of applying an adhesive to the back of a set of pages, bonding the reverse side of a back of end paper thereto to obtain a body, (2) a process of cutting the three edges of said body, (3) a process of applying a quick-drying adhesive meltable by heat to the reverse back of unfolded edge-folding cover, (4) a process of mechanically folding both edges of edge-folding cover while making the back of the body coincident with the reverse of the back of the edge-folded cover, coated with an adhesive, allowing the cover to wrap the body, and (5) a process of bonding the back of the edge-folded covers to the back of the body by the heat of a heater.

## 3. Detailed Explanation of this Invention

[Technological field]

This invention pertains to a method for binding book with edge-folded cover and is particularly associated with a simple method for binding book with edge-folded cover, capable of reducing the production cost.

\* Numbers in the margin indicate pagination in the foreign text.

[Description of the prior art]

The conventional method for binding book with edge-folded cover has the following steps.

First, an adhesive is applied to the back of plural bound papers, and the reverse side of a back section is bonded thereto to obtain a body.

Next, the edges of the body are cut.

Then, an adhesive is applied to the back of the body, and the reverse back of unfolded cover is bonded thereto.

Next, the back section of the cover, coinciding the back of the body, is bent along the back angles of the body

Next, both sides of the folding-edges cover is manually bent to form sleeves.

Subsequently, the top and bottom of the cover are cut to complete the process of binding a book having an edge-folded cover.

[Problems to be Solved by this Invention]

With the conventional book binding method, an edge-holding cover is attached to the back of bound paper body, and the ends of the cover is manually folded. The problem with this method is that /602 it is difficult to correct the position of the edge-folding cover shifted to the top or to the bottom after the cover is attached to the body with an adhesive. Therefore, only the edges of the bound body are cut by a cutter before applying an adhesive to the edge-folding cover. Then, after the edge-folding cover is adhered to the



bound body with an adhesive, the top and bottom of the cover are cut using a cutter.

Hence, with this conventional book binding method, as the process of folding the edges of the edge-folding cover cannot be mechanized, the bookbinding process is inefficiently performed. As a result, the production cost cannot be lowered.

This invention was developed according to the problems described above. The purpose of this invention is to provide a method capable of bookbinding with high efficiency to contrive a lower cost.

[Method to Solve the Problems]

To achieve the purpose described above, this invention provides a method for binding a book with edge-folded cover, comprising (1) a process of applying an adhesive to the back of a set of pages, bonding the reverse side of a back of end paper thereto to obtain a body, (2) a process of cutting the three edges of said body, (3) a process of applying a quick-drying adhesive meltable by heat to the reverse back of unfolded edge-folding cover, (4) a process of mechanically folding both edges of edge-folding cover while making the back of the body coincident with the reverse of the back of the edge-folded cover, coated with an adhesive, allowing the cover to wrap the body, and (5) a process of bonding the back of the edge-folded covers to the back of the body by the heat of a heater.

[Operation]

Since the book body 8 is wrapped with an edge-folding cover 21 partly coated with an adhesive agent 25 meltable by heat, the book body 8 and edge-folding cover 21 can be well-aligned, allowing the entire bookbinding process including the process of folding the edges 27 of the edge-folding cover to be mechanized. Moreover, since the method based on this invention can highly efficiently bind a book 33 having an edge-folding cover with the features such as single cutting for the entire bookbinding, production cost can be lowered.

Operational example:

Hereafter, a preferable operational example of this invention is explained by referring to the figures.

Figs. 1 - 8 are diagrams explaining the process of binding a book having an edge-folding cover.

Fig. 1 shows a set of section 1 consisting of plural pages 1a, 1b, 1c, ... bound by a binding machine. This set of section 1 is fed to a binding machine with a back 1A disposed downwardly.

In the binding machine, as shown in Fig. 2, an adhesive 5 is applied to the back 1A by a roller 3, and the reverse side of a back of end paper 7 is bonded thereto to obtain a body 8.

Next, as shown in Fig. 4, a fore edge 9, a top edge 11, and a tail edge 13 of the body 8 are cut by cutters 15, 16, 17 using a three-side trimmer.

Then, as shown in Fig. 5, the body 8 with three cut edges is fed to an automatic covering machine, and therein a back 8A of the body 8 having three cut edges is made coincident with a reverse 21B of a back of an edge-folded cover 21.

Said edge-folded cover 21 being unfolded is supplied from the direction perpendicular to the transfer line of the body 8.

In this case, as shown with oblique lines in Fig. 9, a quick-drying adhesive 25 melted by heat is previously applied to the reverse back 21B.

As shown in Fig. 6, in the automatic covering machine, the ends of the back 21A of the edge-folded cover 21 are folded and, thereafter, as shown in Fig. 7, sleeves 27 are folded. In this case, folding guides (not shown) are used to fold the ends of the cover 21.

Next, as shown in Fig. 8, after the bodies 8 wrapped by the edge-folded covers 21 are bundled, the backs 21A of the edge-folded covers 21 of the bundled bodies 8 are bonded by the heat of a heater 31, adhering the backs 8A of the bodies 8 and the reverse 21B of the edge-folded cover 21 with the adhesive 25 coated beforehand.

Subsequently a bookbinding process is completed.

Therefore, based on this operational example, since an edge- /603  
folding cover 21 having a section pre-coated with an adhesive which is quick drying and melted by heat is made to wrap the bodies 8, the entire bookbinding process including the folding process of sleeves

27 of the edge-folding cover 21 can be mechanized by an automatic cover adding machine.

Moreover, the use of automatic cover adding machine allows excellent alignment of the edge-folding cover 21 and bodies 8. Hence, a fore edge 9, a top edge 11, and a tail edge 13 of the body 8 are cut simultaneously before the bodies 8 are wrapped with the edge-folding cover 21.

Hence, a book 33 having an edge-folded cover can be highly efficiently produced at a lowered cost.

[Effectiveness of this Invention]

As explained above, this invention can provide a bookbinding method capable of highly efficient and low cost binding of a book with edge-folded cover.

#### 4. Simple Explanation of the Figures

Figs. 1 - 8 are diagrams explaining the processes of binding a book with edge-folded cover. Fig. 8 is a diagram illustrating the unfolded edge-folding cover.

In the figures: 1...Set of section of pages; 7...Back of end paper; 8...Book body; 8A...Back of book body; 21...Edge-folding cover; 21B...Reverse of a back of edge-folding cover; 25...Adhesive

Figure 1

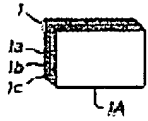


Figure 2

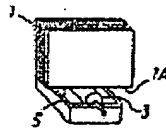


Figure 3

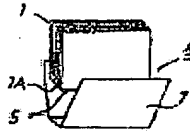


Figure 6

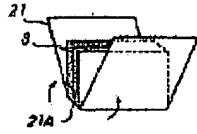


Figure 5

第 5 図

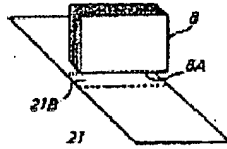


Figure 4

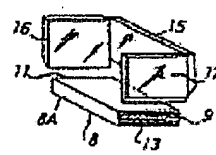


Figure 7

第 7 図

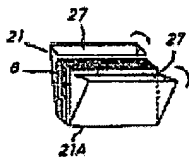


Figure 8

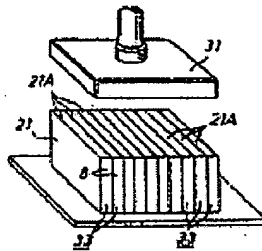


Figure 9

